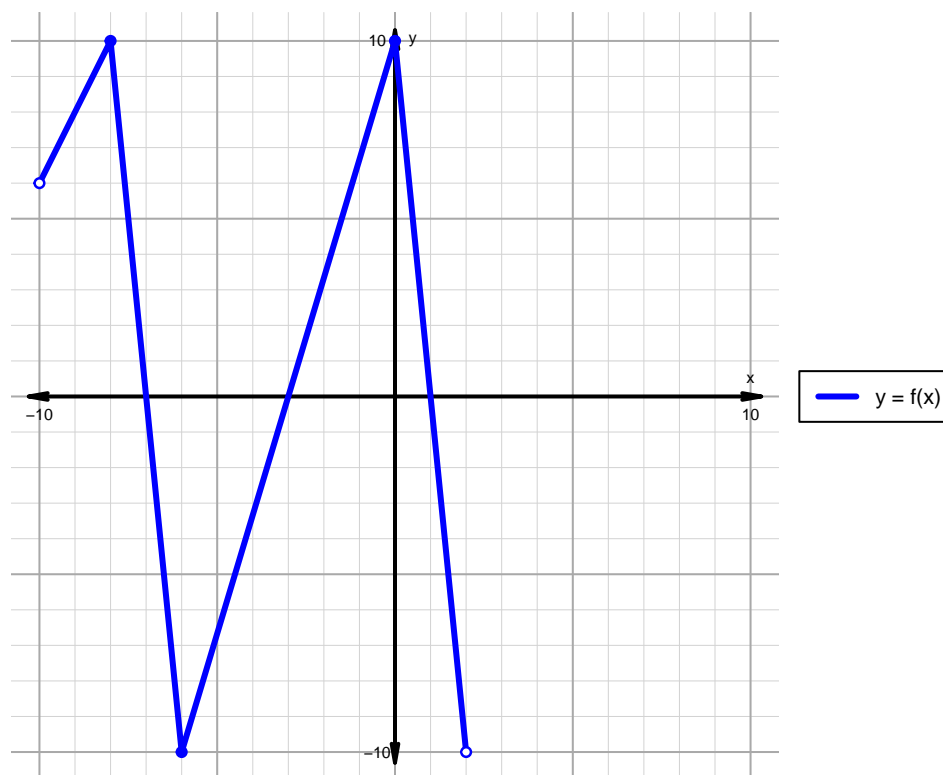


Name: \_\_\_\_\_

Date: \_\_\_\_\_

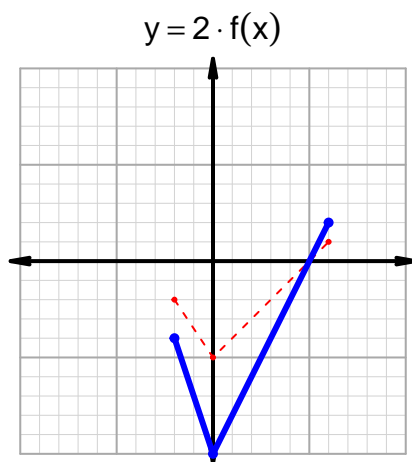
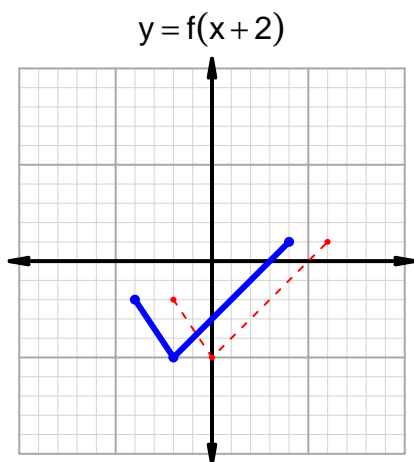
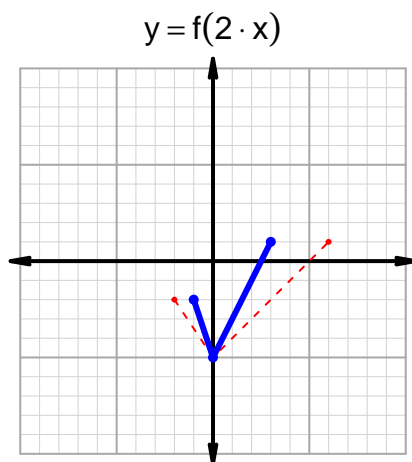
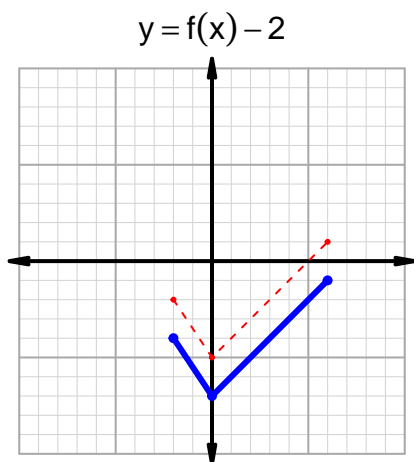
**Intervals, Transformations, and Slope Solution (version 141)**1. The function  $f$  is graphed below.

Indicate the following intervals using interval notation. Remember, you can use  $\cup$  between two intervals to indicate the union. Except for range, all intervals will indicate  $x$  values; this is standard.

Feature	Where
Positive	$(-10, -7) \cup (-3, 1)$
Negative	$(-7, -3) \cup (1, 2)$
Increasing	$(-10, -8) \cup (-6, 0)$
Decreasing	$(-8, -6) \cup (0, 2)$
Domain	$(-10, 2)$
Range	$(-10, 10)$

## Intervals, Transformations, and Slope Solution (version 141)

2. In the four graphs below,  $y = f(x)$  is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function  $g$  be defined by the table below. Use the formula  $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$  to find the average rate of change between  $x_1 = 40$  and  $x_2 = 64$ . Express your answer as a reduced fraction.

$x$	$g(x)$
40	83
51	40
64	51
83	64

$$\frac{f(64) - f(40)}{64 - 40} = \frac{51 - 83}{64 - 40} = \frac{-32}{24}$$

The greatest common factor of -32 and 24 is 8. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-4}{3}$$